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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/683,778	10/10/2003	Mark E. Elledge	SC12999TH	1802

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EXAMINER	
KNOLL, CLIFFORD H	

ART UNIT	PAPER NUMBER
2112	

DATE MAILED: 06/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	**Application No.** 10/683,778	**Applicant(s)** ELLEDGE ET AL.	
	Examiner Clifford H. Knoll	**Art Unit** 2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 February 2004*.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.
  4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-31* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *10 October 2003* is/are: a)☐ accepted or b)☐ objected to by the Examiner.
  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  a)☐ All b)☐ Some * c)☐ None of:
    1.☐ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. _____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
  Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
  Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. *Claims 17-23 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.*

The instant claims appear to recite both method steps and apparatus limitation. A claim must clearly be directed to one statutory class of invention, as set forth in Lyell:

> "[A] claim which is intended to embrace both product or machine and process is precluded by language of 35 USC 101, which sets forth statutory classes of invention in alternative only, and is also invalid under 35 USC 112, second paragraph, since claim which purports to be both machine and process is ambiguous and therefore does not particularly point out and distinctly claim subject matter of invention." (See *Ex parte Lyell 17 USPQ2d 1548*).

Claims 17-23 recite an apparatus but depend on a claim drawn to a method, claim 15. If Applicant intends for ultimate dependence on apparatus claim 16, so should the child claims be amended.

Claim Rejections - 35 USC § 112

2. *Claims 10 and 17-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.*

In claim 10, "the serial data" (p. 20, line 23) lacks a clear antecedent basis.

Claims 17-23 recite an apparatus but depend on a claim drawn to a method, claim 15. If Applicant intends for ultimate dependence on apparatus claim 16, so should the child claims be amended.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. *Claims 1-17 and 19-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith (US 6188686 B1).*

Regarding claim 1, Smith discloses at least three serial devices with serial ports (e.g., Figure 2, "14"), with a plurality of data paths (e.g., Figure 2, "8"), and control circuitry for selecting one of the data paths for transmitting serial data to a selected subset and not a deselected subset of the serial devices where the data remains in serial format throughout the transmission (e.g., col. 12, lines 57-65).

Regarding claim 2, Smith also discloses the third data path (e.g., col. 12, lines 31-36).

Regarding claim 3, Smith also discloses where serial data may be dynamically selectively transmitted from any one of the serial devices to any other of the serial devices (e.g., col. 12, lines 31-36).

Regarding claim 4, Smith also discloses at least two integrated circuits (e.g., col. 4, lines 48-51).

Regarding claim 5, Smith also discloses the timing selector logic to receive and transmit message timing signals corresponding to messages sent (e.g., col. 15, lines 48-51), receive data logic for receiving serial data and selecting from one of the other ports (e.g., Figure 7, "84"), and data reversal logic coupled to receive the selected serial data and coupled to receive and provide serial data from and to a first serial device (e.g., Figure 3, "2").

Regarding claim 6, Smith also discloses a plurality of control registers to provide control signals to the timing selector logic, data reversal logic and receive data logic (e.g., col. 15, lines 56-58).

Regarding claim 7, Smith also discloses clock and frame synchronization selector portions and message timing signals include these portions (e.g., col. 5, lines 59-65).

Regarding claim 8, Smith also discloses receive data selection circuit and buffer enable selection circuit for providing a selected buffer enable signal to the data reversal logic (e.g., Figure 8, "84").

Regarding claim 9, Smith also discloses the plurality of control registers to provide at least one network mode mask control signal and network mode selection circuit coupled to receive the serial data signals from the other serial ports and to provide a selected one of the serial data signals under control of the at least one network mode mask control signal (e.g., col. 14, lines 7-11).

Regarding claim 10, Smith also discloses a multiplexer to receive the selected serial data from the network mode logic at a first input (e.g., col. 23, lines 37-40) and from the receive data selection circuit (e.g., col. 24, lines 33-37), and selecting an output signal depending on whether serial data is network mode or point-to-point (e.g., col. 23, lines 47-56).

Regarding claim 11, Smith also discloses the first and second buffers with a first demultiplexer coupled to receive selected serial data and provide it to a selected one of the buffers (e.g., col. 20, lines 4-8), and a second demultiplexer to receive the selected buffer enable signal from the receive data logic and coupled to provide the selected buffer enable signal to a selected on of the first and second buffers (e.g., col. 20, lines 12-19).

Regarding claim 12, Smith also discloses the receive data selection circuit has a first multiplexer to receive a static port select control signal from a control register (e.g., col. 24, lines 53-57), a second multiplexer coupled to receive a dynamic port select control signal at a control input (e.g., col. 25, lines 50-56), and selected serial data from the first multiplexer at a first data input, and serial data from a predetermined serial port at a second data input (e.g., col. 25, lines 5-15).

Regarding claim 13, Smith also discloses the timing selector logic to receive and transmit message timing signals corresponding to messages sent (e.g., col. 15, lines 48-51), receive data logic for receiving serial data and selecting from one of the other ports (e.g., Figure 7, "84"), and data reversal logic coupled to receive the selected serial data and coupled to receive and provide serial data from and to a first serial device (e.g., Figure 3, "2").

Regarding claims 14 and 24, Smith discloses in a system with at least three serial devices with serial ports (e.g., Figure 2, "14"), with a plurality of data paths (e.g., Figure 2, "8"), dynamically selecting on of the data paths for transmitting serial data to a selected subset and deselecting one or more of the data paths, and transmitting the serial data where the data remains in serial format throughout the transmission (e.g., col. 12, lines 57-65).

Regarding claim 15, Smith also discloses selecting one data path (e.g., col. 20, lines 5-11) and selecting multiple data paths (e.g., col. 23, lines 46-52).

Regarding claim 16, Smith discloses at least three serial devices with serial ports (e.g., Figure 2, "14"), with a plurality of data paths (e.g., Figure 2, "8"), and control circuitry for selecting on of the data paths for transmitting serial data to a selected subset and not a deselected subset of the serial devices where the data remains in serial format throughout the transmission (e.g., col. 12, lines 57-65).

Regarding claim 17, Smith also discloses a host serial data source with a processor and memory (e.g., col. 7, lines 21-26) and the peripheral serial data sources, each being selectively coupled to any of the host serial data sources in any of a plurality of dynamically selectable network mode configurations (e.g., col. 7, lines 35-44).

Regarding claim 19, Smith also discloses the clock and frame synchronization selection logic for selecting from a plurality to provide a frame sync signal and to provide a clock signal (e.g., Figure 8, "CLK", "DAV").

Regarding claim 20, Smith also discloses the data reversal logic for reconfiguring the receive and transmit data paths (e.g., Figure 11, "92", "94").

Regarding claim 21, Smith also discloses selecting which of the sources provides frame sync and clock signals (e.g., col. 17, lines 50-55), receive data logic for receiving serial data and selecting from one of the other ports (e.g., Figure 7, "84"), and data reversal logic coupled to receive the selected serial data and coupled to receive and provide serial data from and to a first serial device (e.g., Figure 3, "2").

Regarding claim 22, Smith also discloses network mode logic coupled to receive serial data signals from others of the serial ports and coupled to provide a selected one of the serial data signals (e.g., col. 23, lines 48-56).

Regarding claim 23, Smith also discloses the control registers (e.g., Figure 8, "114").

Regarding claim 25, Smith discloses the serial ports including N host ports configured to receive data from multiple serial sources (e.g., col. 21, lines 17-24), M peripheral ports configured to receive data from a single selectable serial source (e.g., col. 18, line 64—col. 19, line 2), a software configurable interface block including MxN data paths each path being coupled between a host and a peripheral (e.g., Figure 6, "84"), control registers for dynamically selecting one of the data paths for transmitting serial data to a selected subset and not a deselected subset of the serial devices where the data remains in serial format throughout the transmission (e.g., col. 12, lines 57-65).

Regarding claim 26, Smith also discloses information for selecting a mode of communication, the first and second subset each including one selected serial port during a selected point-to-point communication, and the first subset including at least one serial port during a selected network mode communication (e.g., col. 23, lines 47-56).

Regarding claim 27, Smith also discloses selecting one of the sources for participation in a time division multiplexed network and deselecting another (e.g., col. 13, lines 51-54).

Regarding claim 28, Smith also discloses dynamically selecting a clock master device and frame synchronization master device (e.g., col. 17, lines 50-55).

Regarding claim 29, Smith also discloses dynamically deselecting a network master from among the sources (e.g., col. 5, lines 59-65).

Regarding claim 30, Smith also discloses transmitting so that the data remains in serial format (e.g., col. 12, lines 57-65).

Regarding claim 31, Smith also discloses transmitting serial data without submitting a request to a third source (e.g., col. 22, lines 22-27).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. *Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith as applied supra in view of well-known features, as evidenced by Ofek (US 6760328 B1).*

Regarding claim 18, Smith also discloses WAN applications, but fails to explicitly mention a wireless communication device; however, the Examiner takes Official Notice that a wireless communication device in a communications network is well known and would have been obvious to employ in a communications network such as that of Smith, as evidenced by Ofek (e.g., col. 8, lines 40-55).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Both Norris (US 5796733 A) and Mullaney (US 6801518 B2) disclose TDM switches.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clifford H. Knoll whose telephone number is 571-272-3636. The examiner can normally be reached on M-F 0630-1500.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark H. Rinehart can be reached on 571-272-3632. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

chk

Khanh Dang
Primary Examiner